

REMARKS

Upon entry of the present amendment the Claims under consideration are Claims 2-11, 13-27, and 29-38. Claims 1, 12 and 28 have been canceled by the present amendment. Claim 21 has been amended hereby. The Detailed Action of 29 April 2003 will now be addressed with reference to the headings and any paragraph numbers therein.

Claim Rejections 35 USC §102

Per paragraph 2 of the Detailed Action, Claim 1 stands as anticipated by Arnold et al. (U.S. 5,707,468; hereinafter “Arnold”). Applicants have herewith canceled Claim 1, obviating the present rejection.

Claim Rejections 35 USC §103

Per paragraph 4 of the Detailed Action, Claims 1-38 stand as obvious over Arnold in view of Kane et al. (U.S. 4,359,445; hereinafter “Kane”). Claims 1, 12 and 28 have been canceled per the above. Applicants respectfully traverse all remaining rejections.

It is the contention of the Detailed Action that Kane teaches that particularly lofty nonwoven fabrics may be formed by extruding crimpable homopolymeric “continuous” fibers and then heat treating the fibers to crimp them. However this process of obtaining a crimped fabric web for Kane is not analogous to the present invention.

Kane et al. teaches producing fibers on the wire with latent crimp only (i.e., no crimp) and then heat treating sufficiently to induce crimp into the fibers on the wire. It is believed to be general knowledge in the art that heat relaxation at a molecular level will allow the residual stresses of latently crimped fibers to produce crimping.

However, the present invention clearly claims producing already crimped fibers on the wire and setting the crimp with a specific heat operation applied to the already formed crimps.

Relaxation of the fibers of Kane by heat allows the latent stresses of its uncrimped fibers to form crimps. This is unlike the present invention whose limitations call for a previously crimped fiber to merely have its crimps set by heat without relaxation. That is, application of heat to the present invention's fibers is specified in the limitations at a level where the already crimped fiber has its crimps set by heat without inducing substantial melt bonding or relaxation of crimp, i.e., where loss of freely crimped fibers within the web will result in loss of bulk to the web (see, e.g., spec at page 12, line 7). Kane does not discuss such a mechanism. Thus, the mechanism of Kane is different from that of the present invention and would not suggest itself to a person having ordinary skill in the art as suitable to teach or suggest the present invention. It is therefore respectfully requested that the rejections be withdrawn.

Applicants also note that the word "continuous" is not in the present Claim limitations.

It is further contended by the Detailed Action that a person having ordinary skill in the art would "form the fabric of Arnold so that it comprised layers that comprised the crimped homopolymeric fibers of Kane et al."

As noted above, the crimped fiber web of Kane is derived from a different mechanism than the present web.

Further, Arnold teaches a brief application of high heat flow through a hot air knife (HAK) to quickly melt bond each of its spunbond layers. The HAK

temperatures of Arnold are taught as 200-550 °F (col. 5, line 28), or 320 °F in the Examples, at a flow rate of 1000 to 10000 fpm (a “high flow rate” per col. 5 line 21) at an exposure time of less than a tenth of a second (see col. 8, Examples 1-3). Each of the present independent Claims 2, 7, and 21 clearly set forth that no substantial melt bonding of the fibers of the lofty crimped fiber layer can take place according to the claimed method or laminate.

Unlike Arnold, Kane teaches that its crimps are achieved through the application of heat sufficient to “permit the residual stresses in the filaments to overcome the strength of the material to cause the filaments 12 to shrink and crimp...” (col. 5, line 20). The crimping means taught for Kane’s fibers is an updraft oven at 230 °F with an air velocity of 200 fpm for 5 seconds (col. 6, line 36).

It is further noted that Kane teaches only the use of a foraminous belt 70 (col. 5, line 17) to carry its fibers and nowhere suggests that a nonwoven substrate layer according to Arnold would be appropriate for carrying its fibers when subjecting them to an updraft oven 80 (col. 5, line 38) to induce crimp.

In order for a combination of references to be suggested to the person having ordinary skill in the art, some practical advantage to the combination must be presented from the references or the art in order to lead to an expectation of success in the combination (see MPEP §2143).

Because the methods of fabric formation of the Arnold and Kane references are so disparate, it is unlikely that a person having ordinary skill in the art would have any reasonable expectation of success for achieving crimped fibers according to Kane when using the HAK method of Arnold, as suggested by the Detailed Action.

It is noted that Applicants have stated at page 3, lines 1-4, that a HAK treatment according to Arnold is inappropriate for the crimped fibers of the present invention.

It is believed that any combination of the cited references is motivated only by impermissible hindsight upon viewing the present invention. Therefore, it is respectfully requested that the present rejections be withdrawn

Further it appears clear from the discussion of Page 3, lines 10+, of the Detailed Action that the limitations of the present claims have been impermissibly used as a template to pick and choose those elements of the prior art meeting the present claims rather than establishing a true *prima facie* case for combinability of references that would establish a resultant obviousness of any claim as a whole. Because no *prima facie* case of obviousness has been established, it is again respectfully requested that the present rejections be withdrawn.

Further, the Examiner relies on the doctrine of inherency to support the 35 U.S.C. §103 rejection of at least Claim 13. Applicants dispute that any crimped fiber is “inherently helical due to their crimping.” This assertion is unsupported. Crimping of fibers merely implies the lack of straightness (see page 14, line 16 of the specification). Because the Examiner is stating facts within her knowledge, Applicants herewith request an affidavit under 37 CFR §1.104(d)(2) so that they may properly respond to this assertion. The Detailed Action states, in the alternative: “or else it would have been obvious to have selected the particular asymmetric shape of the extruded fiber so that it would produce the desired degree of [helical] crimping.” Again, this assertion is unsupported. Because the Examiner is stating facts within her knowledge, Applicants herewith request an affidavit under 37 CFR 37 CFR §1.104(d)(2) so that they may

properly respond to this assertion.

In the absence of such an affidavit and the chance for Applicants to properly respond to the unsupported assertions, the §103 rejection must be withdrawn.

In summation, neither Arnold nor Kane, singly or in combination, teach the method of creating a first nonwoven layer having sufficient integrity to withstand high speed web transfer rates; creating a lofty second layer having crimped homofilament fibers; traversing the second layer through a flow of heated air at a temperature, flow rate, and traversal rate sufficient to heat set the crimps of the fibers without substantial melt bonding or relaxation of the fibers; and bonding the heat set second layer and the first nonwoven layer to have sufficient structural integrity to withstand high speed web transfer rates. Nor do the cited references teach any need for a laminate resulting from such a process.

For all the foregoing reasons, the Claims as presently amended are believed to be allowable over the art of record. A notice to that effect is earnestly solicited.

The Examiner is invited to call Applicant's undersigned attorney should the Examiner feel that any issues remain after entry of the present amendment.

Favorable consideration is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Roland W. Norris". The signature is fluid and cursive, with the first name "Roland" being more prominent and the last name "Norris" following in a similar style.

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